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NOTICE OF ALLOWANCE AND FEE(S) DUE

21171 7590 03/16/2004
STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
NOBAHAR, ABDULHAKIM	
ART UNIT	PAPER NUMBER
2132	14
DATE MAILED: 03/16/2004	

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/327,477	06/08/1999	YASUTSUGU KURODA	826.1547/JDH	5479

TITLE OF INVENTION: ELECTRONIC DATA STORAGE APPARATUS WITH KEY MANAGEMENT FUNCTION AND ELECTRONIC DATA STORAGE METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330	\$0	\$1330	06/16/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

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B. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status.
See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail**

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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

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Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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nonprovisional	NO	\$1330	\$0	\$1330	06/16/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
NOBAHAR, ABDULHAKIM	2132	713-193000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
 2 _____
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent); ☐ individual ☐ corporation or other private group entity ☐ government

4a. The following fee(s) are enclosed:

- ☐ Issue Fee
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- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):

- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

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(Date)

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.**

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EXAMINER

NOBAHAR, ABDULHAKIM

ART UNIT

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DATE MAILED: 03/16/2004

Determination of Patent Term Extension under 35 U.S.C. 154 (b)

(application filed after June 7, 1995 but prior to May 29, 2000)

The Patent Term Extension is 0 day(s). Any patent to issue from the above-identified application will include an indication of the 0 day extension on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowability

Application No.

09/327,477

Examiner

Abdulhakim Nobahar

Applicant(s)

KURODA ET AL.

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to January 14, 2004.
2. ☒ The allowed claim(s) is/are 1-10, 12-19 and 22-26.
3. ☒ The drawings filed on 08 June 1999 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

Allowable Subject Matter

1. Claims 1-10, 12-19 and 22-26 are allowed.
2. The following is an examiner's statement of reasons for allowance:

The primary reasons for the allowance of the independent claims 1, 15-17 and 22-24 are the inclusion of the following limitations that are not found in the prior art and they are uniquely distinct features. The closest prior arts are Boebert et al. (5,502,766), Kandansky et al. (6,295,361 B1) and Saito et al. (EP 0715241 A2). Boebert et al. disclose a data enclave system for securing data stored on a fixed or removable physical media in a local or a wide area network with a plurality of workstations and a server. In this system an enclave key is stored in the server and in each workstation and it is used to protect other encryption keys stored or transmitted on the network. A media key is also provided for each unit of media, and used to encrypt and protect data carried on the media, with the media keys stored in the personal keying devices. Kandansky et al. disclose a method and apparatus that allow a key manager node in a network to initiate the process of changing a group key for all nodes in a multicasting group. The key manager sets an indicator whenever the key manager determines that the nodes in the group need to change their key. The members in the multicast group then obtain the new group key from the key manager via an appropriate key distribution process. Also, the group members may individually request a new group

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key. The group members use the group key to encrypt or decrypt multicasting packets. Saito et al. disclose a data copyright management apparatus having a transmitting side and a receiving side. Saito et al. disclose a first secret key that is used to encrypt digital information at the transmitting side and to decrypt it at the receiving side. The information is re-encrypted using a second secret key and stored in a hard disk, flexible disk, optical disk, writable video disk or the like. These three arts, singularly or in combination, fail to anticipate or render the following limitations:

“Claim 1: An electronic data storage apparatus comprising for storing electronic document:

a key management unit managing an individual key unique to said electronic data storage apparatus to which said management unit belongs, and a common key shared with other electronic data storage apparatuses of the group, selecting the individual key when performing an encryption process on an electronic document stored in said electronic data storage apparatus to which said management unit belongs, and selecting the common key when performing the encryption process or when verifying the electronic document transmitted to or received from another electronic data storage apparatus; and

an encryption unit performing the encryption process using the key selected by said key management unit.”

“Claim 15: re-encrypting, by a first electronic data storage apparatus in one hierarchical level of the hierarchical structure, a document encrypted using an individual key which is unique to and stored in the apparatus, using a higher order group key corresponding to the hierarchical level, and transmitting the re-encrypted document to an electronic data storage and management apparatus for managing the electronic data storage apparatuses in a group at one hierarchical level lower;

verifying, by said electronic data storage and management apparatus for managing a lower group of electronic data storage apparatuses, the received document using the higher order group key, re-encrypting the received document using the lower order group key corresponding to one hierarchical level lower if the received documents is correct as a result of the verification, and transmitting the received document to a second electronic data storage apparatus in the group at one level lower; and

verifying, by the second electronic data storage apparatus, the received documents using the lower order group key, re-encrypting the received document using an individual key unique to the second electronic data storage apparatus if the electronic document is correct as a result of the verification, and storing the re-encrypted received document.”

“Claim 16: re-encrypting, by a first electronic data storage apparatus in one hierarchical level of the hierarchical structure, a document encrypted using an individual key which is unique to and stored in the apparatus, using a lower order group key corresponding to the hierarchical level, and transmitting the re-encrypted document to a

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lower order group electronic data storage and management apparatus for managing the electronic data storage apparatuses in the group;

verifying, by said electronic data storage and management apparatus for managing a lower group of electronic data storage apparatuses, the received document using the lower order group key, re-encrypting the received data using the higher order group key corresponding to one hierarchical level higher if the electronic document is correct as a result of the verification, and transmitting the document to a receiving electronic data storage apparatus in the group at one level higher; and

verifying, by the receiving second electronic data storage apparatus, the received document using the lower order group key, re-encrypting the received document using an individual key unique to the second electronic data storage apparatus if the electronic document is correct as a result of the verification, and storing the re-encrypted received document.”

“Claims 17 and 23: storing in a storage unit an individual key unique to an electronic data storage apparatus for storing an electronic document and a common key shared with another electronic data storage apparatus;

selecting the common key stored in the storage unit as a key to be used when communicating the electronic document;

selecting the individual key to be used when performing an encryption process on the document to be stored in said electronic data storage apparatus; and

performing the communication process or encryption process using the selected key.”

“Claim 22: An electronic data storage apparatus comprising for storing electronic document:

key management means for managing an individual key unique to an electronic document storage apparatus to which said management means belongs, and a common key shared with other electronic data storage apparatuses, selecting the individual key when performing an encryption process on the electronic document stored in the electronic data storage apparatus to which said means belongs, and selecting the common key when performing an encryption process or when verifying the electronic document transmitted to or received from another electronic data storage apparatus; and

encryption means performing the encryption process using the key selected by said key management unit.”

“Claim 24: storing a local encryption key for the local environment locally and storing a global key for the global environment;

receiving a document to be transmitted along with an environment indicator indicating the environment of the document transmission;

selecting one of the local and global encryption keys responsive to the indicator; encrypting the document with the selected one of the keys; and

transmitting the encrypted data, and

wherein the local key is used for data storage in a local data storage unit only by a local data storage system that stores the local key.

3. The dependent claims 2-10, 12-14, 18,19, 25 and 26 are allowed because they were originally found to include a unique feature not found in the closest abovementioned art.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdulhakim Nobahar whose telephone number is 703-305-8074. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 703-305-1830. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

a.n.

Abdulhakim Nobahar, Examiner, Art Unit 2132
March 4, 2004

Gilberto Barron

GILBERTO BARRON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100